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TLP: WHITE

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DATE(S) ISSUED:

03/10/2016

SUBJECT:

Vulnerability in PHP Could Allow for Remote Code Execution

OVERVIEW:

A vulnerability has been discovered in PHP, which could allow an attacker to execute remote code. PHP is a programming language originally designed for use in web-based applications with HTML content. PHP supports a wide variety of platforms and is used by numerous web-based software applications. Successful exploitation of this vulnerability could allow a remote attacker to execute remote code in the context of the user running the affected application. Depending on the privileges associated with the user, an attacker could then install programs; view, change, or delete data; or create new accounts with full user rights. Failed exploitation will likely result in a denial-of-service condition.

THREAT INTELLIGENCE:

There are currently no reports of these vulnerabilities being exploited in the wild. However, there are reports of proof-of-concept code, but it has not been made publicly available.

SYSTEM AFFECTED:

- PHP 5.6 prior to 5.6.19
- PHP 5.5 prior to 5.5.33

RISK:

Government:

- Large and medium government entities: **High**
- Small government entities: **High**

Businesses:

- Large and medium business entities: **High**
- Small business entities: **High**

Home users: Low

TECHNICAL SUMMARY:

A vulnerability has been discovered in PHP, which could allow an attacker to execute remote code. This vulnerability exists due to a use-after-free error in the 'ext/wddx/wddx.c' file, which is caused as it fails to correctly implement Web Distributed Data eXchange (WDDX) deserialization. Failed exploitation will

result in a denial-of-service condition. Successful exploitation could be performed via a specially crafted XML file.

WDDX is an XML-based technology that enables complex-data exchange between various supported Web programming languages, by allocating a specific module for each supported language. The module will translate (serialize) the native data structures into an abstract form represented as XML, or de-serialize the WDDX XML into a native data structure.

Successful exploitation of this vulnerability could allow a remote attacker to execute remote code in the context of the user running the affected application. Depending on the privileges associated with the user, an attacker could then install programs; view, change, or delete data; or create new accounts with full user rights. Failed exploitation will likely result in a denial-of-service condition.

RECOMMENDATIONS:

The following actions should be taken:

- Upgrade to the latest version of PHP immediately, after appropriate testing.
- Apply the principle of Least Privilege to all systems and services.
- Do not open email attachments from unknown or untrusted sources.
- Verify no unauthorized system modifications have occurred on system before applying patch.
- Limit user account privileges to only those required.

REFERENCES:

PHP:

<https://bugs.php.net/bug.php?id=71587>

<http://php.net/ChangeLog-5.php#5.6.19>

<http://php.net/ChangeLog-5.php#5.5.33>

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